Reading Public Library Renovation and Expansion
Design Narrative

CBT Architects
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I. Historical Summary; Use of Drawing Resources

The present Reading Public Library building originated as the Highland School, designed by Horace G. Wadlin, and first constructed in approximately 1896. Listed on the National Register of Historic Places, it is a masonry load-bearing building with wood floor framing, timber roof trusses, laced with some supplemental steel framing. The transition to a public library occurred around 1983, renovated to this new purpose essentially in accordance with found drawings prepared by Mark Mitchell and Associates (and their consultants), titled “Reading Public Library, Highland School Building, Adaptation for Library Use”, dated February 2, 1983 (or similar final version of same). The vestibule at present primary entrance, now reached from the parking area via a pedestrian access ramp or stair, was in the early 1990s. The original main Middlesex Street *porte cochere* entrance is closed, except for emergency egress. The control point of the library – the main circulation desk – is adjacent to the parking side entrance

In the course of history and the change in use, the original building has undergone modifications. A fire in the mid-1950’s (while the building was still a school) damaged an upper level classroom and part of the attic space. As a result, repairs and modifications were made as illustrated in a set of drawings, prepared by the architectural office of Clinton Foster Goodwin, titled “Alterations & Additions to the Highland School”, dated July 1957 (or similar final version of same). The changes at this time included removal of the turret spires and replacement with flat roofs; removal of the roof dormers; repairs to roof decking and framing; and a change to roofing material from slate to asphalt shingles. The repair drawings also identify some window replacements at the east and southeast of the upper floor, likely required because of the fire. The window replacement is evident also by differences in the window details comparing early photos before the fire to the present.

For the transition from school building to library in 1983, the plan layout was opened to accommodate library book stacks by removing corridor and classroom demising partitions, removing heat chamber spaces at the lower level along with some of the masonry vertical heat and ventilation stacks, and closing the east and west stepped entrances. The upper level high auditorium space and related accessory space was converted to a children’s library. New structural reinforcement - by way of steel beams, angles, and added columns - was introduced to a) perform the support previously borne by the demising and bearing walls removed and b) to help carry the higher load of the books. The stair recesses of the east and west entrances were floored over.

In 1997 and 1998 a replacement heating, ventilating, and air conditioning system design was prepared by Richard D. Kimball Co, Inc. The new system included a pair of air handling units, with associated ductwork, in the attic and introduced a chiller unit on grade to the east of the building. Two air handling units were

A comparison of early original photos of the building to the library today, shows that at some point the masonry chimneys were either modified or reconstructed, as the masonry detail differs.

The current project to renovate and the expand the Reading Public Library is based in part on the history of drawings noted above, copies of which remain, together with current field investigations and additional laser measuring of existing conditions, recognizing that some minor additional changes outside past major modifications have occurred over time and use.

II. <u>Design Charge</u>

In January of 2011, the Reading Public Library applied to the Massachusetts Board of Library Commissioners for grant to partially fund the long-standing desire and necessity to renovate and expand the Library to meet current program standards for public libraries, to expand to house future growth and changing collections, to provide facilities for community meeting space, to improve accessibility, and to address maintenance and repair deficiencies.

The grant was accompanied by a concept design showing proposed site and building layout changes, including an addition to the east of the building. The overall project illustrated was approximately 38,500 square feet.

In September/October of 2013, the Reading Public Library, through the Town of Reading, engaged the services of CBT/Childs Bertman Tseckares, Inc., architects to revisit the previous grant design and planning of the library, and to advance the work through the to the phase for construction with the aim of realizing the project in full. The design charge includes understanding additional programmatic changes formulated by the library, and studies of the concept and layouts to enhance the organization, refine the functional relationships and address limitations to supervision and control. A specific issue for study is the potential for, or practicality of, re-opening the Middlesex Street *porte-cochere* entry. Along with design, the charge is to re-assess existing conditions. All design work is to keep in focus the context of the budget and the grant award criteria.

The expansion of the Reading Public Library will benefit the Town with several new meeting spaces available to the community, as well as a new reading and stack room of light-filled quality; the proposed renovation of the existing building will also significantly enhance the value to the Town of this historic facility through improved accessibility, better functional organization, improved safety, abatement of hazardous materials, integrity of the building envelope, and renewed mechanical systems of higher efficiency.

III. <u>Design Concept and Principles</u>

- The organizational concept for the revised design is based on the following objectives;
- To establish favorable adjacencies and relationships between staff workspaces for efficiency of staff operations;
- To reinforce the clear organization of collections, efficiently housing the the subsets of non-fiction, fiction, reference, children's and media collections;
- To set out an entry sequence that will facilitate accessibility, supervision, linking to a clear interior organization of vertical and horizontal circulation for good orientation, good way-finding, and ease of maneuvering through the building.

A. Accessibility and Circulation Organization

A new entry sequence is planned into the building from a landscaped entry plaza at the parking area, featuring doorways on level with the sidewalk, leading to a lobby from which the various levels and areas of the library can be readily accessed via clear circulation paths, and a new elevator – all within the secure supervision and help of a new central circulation desk. The objective is clarity of orientation for the patron, with easy linear circulation movements along the center of the library, and openly visible access to stairs and the elevator serving the 3 levels of the library. The elevator is enlarged for ease of use to accommodate parents with strollers, those with physical disabilities, indeed all patrons, as well as emergency services. Access to the children's library, traditionally on the upper level at the Reading Library, will be more direct than at present, without necessarily traversing other parts of the library, if desired. The accessibility extends through the existing building to a new exterior activity area at the roof deck of the new addition, for the children. All accessory areas of the library will be updated to meet dimensional standards for doors, aisles, toilet rooms and fixture placements.

The main entrance is on a half-level, with an open stair leading to the main level above (half-flight up) and the ground level below (half-flight down). This open stair is associated with the new elevator immediately adjacent to west (replacing the present elevator to be removed). The new elevator serves all main levels of the library and can be entered at a stop off directly the entry lobby. The entry stair/elevator grouping is on axis (north-south) with the main circulation desk, from which entrance activity can be viewed and monitored.

Consideration was given to re-opening the original entrance at the *porte cochere* to service local pedestrian traffic to the library, and to acknowledge the original historic function. This entrance and stair remains physically, but closed except for emergency egress. However, the doorway is half-level above grade and not accessible. To open it again for entry would require re-configuration as a grade entrance, with elevator and stairway introduced within, to reach the main level. The re-direction of space away from program use, the expense of a second elevator and another stair, and the operational burden of staffing supervision of this auxiliary entry point was deemed of marginal benefit. Instead, an alternate proposal has been endorsed to create a new room off the main level, within the *porte cochere*, as part of an innovation center program.

This room, glazed and lit for identity, would activate the north side of the building as a lantern to the neighborhood, eliminating the shadowed, dark, and un-used area beneath the canopy.

An east-west circulation spine organizes simple movement across the length of the library, including into the new addition, at each level. The entry stair, the elevator and the fire stairs, as well as the main circulation desk and children's circulation desk all work directly off this spine, supporting clarity of orientation. The location of the main circulation desk not only monitors the entry, but offers views into the reading room of the new addition, and the reading areas of the existing, for panoramic supervision.

The western existing open stair, which connects all levels is retained, but reconstructed as a true fire stair within a fire-rated enclosure. The similar eastern existing stair is removed, along with the existing elevator, and this zone is floored over at the main and second levels to capture space for program. A new fire-rated stair is located in the addition, to reduce travel distances and improve separation of exits for better safety.

The reconstructed existing stair is planned to extend the attic. The current turret stairs are planned for removal, to be floored over at each level for newly captured program space.

B. Functional Improvements and General Overall Reconfiguration

The overall functional relationships amongst staff areas, collections, reading areas, exhibits, meeting spaces, and utility uses have been studied to maximize efficiency, improve sight lines for supervision, connect the staff positions directly to staff work areas, ease navigation through the facility, and to make the access of the collections a positive experience. The functional improvements will enable the staff to have a visible presence throughout the building, and efficient use of space will translate into more staff time available to assist the patrons. The spaces are designed to fit the current and future programmed activities and collections. A general reconfiguration of the existing building is required, although main spaces are retained where fitting to the new plan.

The circulation workroom is located immediately adjacent to and behind the main circulation desk, for staff proximity operating both functions. The circulation work room will house a future automatic sorting machine coupled to a patron book drop slot next to the circulation desk. A copy center for patrons will also be located in this area. The technical services area is located in the same plan location directly below on the lower ground level, facilitating vertical connection between these major staff areas via close relationship to the nearby stair and elevator.

The reference desk is located at the west end of the main level spine, with monitoring view of the collection in the existing stack area, and a communicating view of the main circulation desk. The reference desk is also adjacent to the semi-autonomous teen library area, for supervision and control; the reference is staff work area is directly across the spine to the northwest, for ease of operational movement between the desk and the workroom, and additional staff presence near the teen area.

Similarly, the children's library desk has central control of the children's library, with related staff work areas immediately behind. The northwest area of the 2nd level will house library administration areas for the library director, assistant director and a local history collections/ meeting space.

The east-west organizing spine carries to an eastern roof deck on the new addition at the 2nd level, offering outside activities for children in good weather, with visibility and overview from the children's desk.

The pre-school area to the southwest corner is to an extent self -monitoring, as parents are normally expected to be present with their children.

C. Ground Level - Community Meeting Space

Important program components of the new addition at the ground level include a new 150 person community room and a 30-person meeting room. These spaces are organized around a pre-function area, with supporting accessory kitchen, storage and toilet facilities nearby. The community room is planned to be divisible in two with a moveable partition. The area can be accessed off hours via the main entrance off the parking or directly from a secondary entrance at the east, directly into the pre-function lobby.

The meeting rooms require more height than offered by the current floor-to-floor distance between ground and main level. For this reason, the slab of the existing building is lowered under the entrance lobby above, and the grade slab of the addition is lowered yet again. The stepped sequence develops the needed height. Two short ramps facilitate accessibility across these level changes and connection to the elevator.

The balance of the ground level is used for collections, Friends of the Library, staff areas, technical services, and mechanical spaces. The existing boiler room is relocated to the addition to permit a more open collections area with a supervising work station. (See the description of this relocation plan under "Systems Replacement" below.)

D. Systems Replacement, Technology Integration, Energy Efficiency and Sustainability

Modernization of the mechanical, electrical, plumbing, and technology systems of the library will provide measurable benefit and positive return over time, together with responsible management of Town resources. Targeted are complete replacement of the heating, ventilating and air conditioning systems, using modern high-efficiency condensing boilers and an effective refrigerant-based heat-exchange system, supplemented with proper fresh air ventilation meeting the current code standards. Zoning of the HVAC will be aligned by use and exposure to maximize comfort and control for a variety of simultaneous conditions. Together with the insulated glass windows and a new insulation system for the large attic space, and an electronic management control system, the energy efficiency of the original building will be advanced, saving costs long-term for the Town and improving the environment of the facility in terms of air quality, temperature control and comfort.

Furthermore the electrical system and lighting will be updated and enhanced to serve the operating systems and the patrons. The improved lighting will also contribute to the public safety discussed above.

Plumbing systems will be renewed with more numerous toilet facilities of convenient location, utilizing low-consumption fixtures for water conservation. Toilets will be configured for accessibility.

Along with the electrical system upgrade, the original library will benefit from a new technology infrastructure to support extensive availability of computer stations. The network will feature an expanded network of computer connection ports, coordinated with specialized furnishings, to facilitate flexibility and encourage usage by all patrons. The positive and long-term benefit and value of such technology access to the community, in terms of education and opportunity is beyond measure.

A key decision has been to relocate the mechanical room from the existing building into the new addition. As described above, the existing room is a location that hinders and efficient collections and supervisory layout for the ground level. The mechanical room must also serve both the existing building and the new addition. The main cooling heat exchangers and the air handler for the addition will be located on the addition roof in a screened enclosure; a new mechanical room is planned at the ground level, immediately adjacent to the existing building and close to the new entry. This location provides the opportunity for a new efficient equipment layout, and a pathway to feed the existing building across, via the void space created under the entry lobby and stair, next to the mechanical room.

Existing air handlers will be located in the existing attic, replacing the old units; shaft locations for ventilation air will be studied. It is unlikely that re-using the old ventilation shafts for air is practical with respect to cost-benefit, due to the difficulty that would be posed by opening up the masonry to re-line. However, it may be useful to run pipes or conduit in these shafts.

IV. <u>Renovation – Existing Building</u>

A. Envelope - Masonry Conditions and Repairs

The masonry exterior is in need of general pointing and repair. Several areas of wall suffer from water penetration which has displaced the brick via freeze-thaw cycles, which, if not corrected, will accelerate the rate of failure. Mortar has deteriorated and water is infiltrating the decorative horizontal bands, where the mortar is washed out, leading to infiltration. Broken and cracked masonry is to be replaced. The conditions have been identified by the design team for budgeting specific repair.

- A specific assessment of visible masonry deterioration and associated needed repair has been made through the schematic design phase, compared to the naturally more general approach of grant concept phase:

    - Cracking at window lintels;
    - Freeze-thaw blow-out of exterior masonry due to moisture penetration through failed mortar joints and sills – selective major reconstruction of brick;
    - Areas of brick failure at cylindrical stair volumes (turrets)
    - Failure of mortar joints (largely missing mortar) through decorative masonry bands (egg & dart molding); broken masonry band pieces;
    - General need for repointing of exterior;
    - Holes in masonry; broken brick identified;
    - Anticipated refurbishment of brick buried under ramp.
    - Some interior brick damage anticipated, hidden to be exposed in construction.

The most significant freeze-thaw damage is noted at the turret masonry, especially at the 2nd level above the exterior doors, the northwest alcove next to the *porte cochere*, and beneath the north stair windows with decorative sill pieces.

The original yellow brick is of atypical size relative to brick available today: 8 1/2" x 4" x 2 3/8". For matching purposes a yellow brick of similar color range and matching size will have to be custom made in sufficient quantity to accomplish repair work, together with any brick that can be salvaged.

B. Envelope - Roofing and Roof Drainage

The sloped roofing material, asphalt shingles, is now understood to be more than 25 years old. The red shingles are scheduled for replacement. A section of original gray slate roofing remains at the *porte cochere.* The recommendation is to replace all with new asphalt shingles, the color to be decided in concert with historical review. The expense of re-establishing a slate roof overall for slopes is prohibitive in cost within the context of the project budget.

Flashings appear to be in poor condition and need replacement together with the shingles. It is recommended to include an adhered membrane ice sheet under the shingles at vulnerable locations above eaves, at valleys, crowns an extended a distance of the roof beyond intersections with wall base flashing. Note that the original; slate roof featured exposed copper hip and valley flashing.

The copper gutters are pin-holed and should be replaced; they appear to originate with the fire repair project of the mid-1950s according to those drawings. The original gutters were wood, lined with metal. The downspouts also should be replaced, with attention to the sub-grade drainage system of clay pipe, which is suspect for back-ups that likely contribute to foundation wall leaks.

Wood fascia boxes show local signs of deterioration, as does some of the wood decking at the eaves.

The turret fascia is failed, patched with metal strips, and would be replaced with new detail as part of a proposed recreation of the turret spire roofs (in lieu of the present flat roofs).

C. Envelope - Windows

The original wood windows are past their useful life; many are no longer operable with failed balance weight systems, the glass is only non-insulated glass, and there are excessive layers of paint. The project includes replacement of the windows using relatively low-maintenance aluminum-framed window with insulating glass (including energy-saving coatings). The windows will be designed to match the historic frame and trim profiles of the original wood windows, with fused finish coatings of historic appearance to minimize the need to re-finish in time. The program includes exposing/re-opening windows to the lower stack level areas along the south side of the library, now covered by the handicap ramp (to be removed and replaced with direct entry access described above.

D. Structure – Foundation

A test pit was excavated alongside the existing east foundation wall to investigate the composition and depth during the schematic design phase. The original foundation was found comprised of granite blocks in varying widths. The configuration appears to hold the inside face of wall in a consistent plane, allowing the exterior face to project based on the random widths of stone. Measurements at the test pit show the projection to be as much as 12 inches, for the area exposed. The bottom of the wall is approximately 10 feet below grade.

Additional test exposures have been made to determine the level of footings for interior brick piers and columns.

E. Structure - Attic Conditions

The attic comprises of a mixed heavy timer structural system comprised of primary wood trusses, which in turn support a post and beam system, with wood joists and wood decking. It is obvious where framing was replaced due to the fire and where dormers were removed. This replacement wood is of clean appearance, compared to the darkened original wood, which maybe soot-stained.

The timber system rests on the masonry walls, and the masonry stacks. In a few locations wood posts are resting on wood stud walls, with marginal bearing conditions requiring remedy. Some brick bearing points show signs of local compression failure under the timber, requiring remedy. There is one broken beam, which was sandwiched with steel channels and then sprayed with fireproofing.

The attic, beneath the floor boards, has blown-in insulation of several varieties, and the condition can best be described as messy. The attic decking comprises wood boards, but many boards have open holes through which the insulation is protruding. It appears that, in the course of past work, many boards were cut open for electrical or pipe access, and left that way, with the debris scattered throughout the attic. The decking holes should be repaired with infill boards to address the holes or an option is to plywood over the attic.

F. Structure – Floor Framing

The main and second floor levels are framed in wood, typically with floor joists sized approximately 3 x 15, 2 x 14 or 2 x 12. There are various steel beams, angles and reinforcements, the legacy of past renovations for floor infill, fire damage repair, or support to replace bearing walls removed. In addition to the perimeter masonry bearing walls, and masonry ventilation stacks, farming is supported on brick piers or steel lally columns. A number of lally columns were introduced at the ground level during the conversion from school to a library to replace bearing walls removed to create open space, or to cut spans to handle book stack loadings. For this renovation project, additional reinforcing of main level book stack areas will be necessary by introducing steel beams to reduce wood joist spans for improved capacity. Other areas will be limited to low book stacks, with allowed capacity posted accordingly for the future.

The renovation is an opportunity to enhance the strength of the building to improve resistance to seismic events, within practical limits. For example, the code provides for clipping all the wood floor framing to the masonry walls to mitigate potential separation through a tie system. Some additional shear wall capacity (masonry stair and elevator shafts) will be introduced to improve lateral strength.

G. Energy

The existing windows are non-insulated. The attic is insulated with blown-in insulation, but there is no evidence of any effort to seal off gaps or continuous air paths.

The exterior masonry walls are generally not insulated, to the best of knowledge. Additional exposure is needed to confirm. The 1983 conversion drawings suggest that some insulation was inserted into the wood 2 x 4 stud finish wall that backs the masonry at the perimeter. A detail indicates that where chalk boards were removed, the studs were exposed and in these stud cavities batt insulation was to be placed, pushed up into the blind areas above the chalk boards, where plaster was not apparently to be removed. Below the chalk boards, behind the wainscot, no insulation is shown in these drawings, the stud cavity capped with blocking. As a result, any wall insulation appears inconsistent and absent vapor barrier.

Going forward, it is likely that any exterior insulation would be limited, if at all, in order to preserve the integrity of the masonry. The existing non-cavity masonry wall is subject to moisture absorption and therefore freeze-thaw in winter; the heat loss from exterior to exterior is the mechanism by which the wall can be dried and moisture driven out. Insulating the exterior wall will minimize the heat loss, at the expense of wall failure.

It is recommended to manage the existing building energy through the window replacement with insulated glass, new higher efficiency air handling or terminal heat units and controls with improved zoning, and moving the roof insulation line to the underside of roof deck with spray insulation over the structure which will also seal gaps.

H. Interior Construction

The existing interior construction is comprised essentially of wood framed walls and plaster finishes, together with exposed brick walls (now painted in most locations). The exterior masonry wall appears to have a 2 x 4 wood stud wall lining the interior. The lower half of the walls is typically finished with beaded-pattern wood wainscot, and the interior side of the windows is wood trimmed. The ceilings were originally a combination of plaster and embossed pattern tin. The tin ceilings remain exposed at the main level in the center and in the stack areas. At other locations, acoustic ceiling tile has been installed below the original ceilings and it observation in several locations above the acoustic, suggests that the tin was left behind. The tin appears to be backed with plaster.

I. Interior Renovation to the Existing Building

As described in the section above in Part III, the existing building will undergo significant re-configuration to improve functional relationships, as illustrated in the plans. Along with the changes to the plan layout, the finishes will be refurbished, and the new construction blended with the old, for a positive experience transitioning from the existing building to the addition.

The layout changes will be accomplished with a combination of metal and wood framing, with new gypsum wall board; the economic potential for using veneer plaster on new work(in lieu of gypsum board taped) will be studied for cost effectiveness, as this system will allow easier blending of new work to existing plaster walls.

The extent of millwork trim must be balanced against the practicality of keeping existing trim vs. replacement. For example, removal of the existing windows will require parallel removal/replacement of the window trim. Wood beaded panel board is present throughout the building. However it is also found to be irregular in height, and inconsistent as a finish, with much modification over the years. It is also difficult to paint and repair. Alternative replacement finishes and alternative selective paneling options should be at least considered.

The existing ceilings will largely be lost to demolition to access the framing for seismic and HVAC upgrades. It may be practical to save the original high ceilings in plaster at the upper floor, because the framing can perhaps be accessed from the attic. The intent is to replace the ceilings with a combination of an elegant acoustic tile and palest soffits. Selective public areas are proposed for retaining the original pressed-pattern tin ceilings, or replacement in kind with similar material. The challenge is the repair of the tin ceiling if it has been penetrated for fixtures.

Floor finishes will be generally carpet in public areas with selective special locations in hardwood. High wear or wet areas are proposed to be finished in tile, stone, or vinyl composition tile.

V. <u>Construction Systems – New Addition</u>

A. Structure

The foundations of the new addition are planned as conventional spread concrete footings, continuous under the perimeter concrete foundation walls, in pad configuration beneath individual columns. Foundation sizes will be designed in accordance with the load capacity of the supporting soil, based on the geotechnical recommendations determined with borings taken into the soil.

The new structure of the addition will be designed to avoid, to the extent practical, any undermining influence of the new foundations on the bearing of the old, by keeping the new footing and slab elevations close to the same elevation as the bottom of existing wall. Where this is not possible, underpinning is necessary to maintain gravity stability of the original wall without excess settlement. Furthermore, the first new column line closest to existing is held off a distance of six feet east of the existing foundation.

Framing of the new addition is fundamentally steel columns and beams supporting composite floor and roof platforms of steel deck with concrete. The steel will be spray- fireproofed per code requirements. Rigid moment frames provide lateral bracing for the addition. The framing will cantilever toward the exiting building off the first grid closest to the original building. The ground slab will be a cast-concrete slab-on-grade, over vapor barrier, rigid insulation and a layer of compacted crushed stone.

The original building and the new addition must be separated for seismic protection to prevent lateral collision of the two in an earthquake. The gap of some inches to be determined by engineering will be covered with a seismic joint. The offset location of the first grid of the addition from the existing building, together with the cantilever framing described above is rationalized for the seismic design also.

B. Exterior Wall/Facades

The exterior wall system of the addition will comprise a masonry clad cavity wall or rain-screen system. The back-up wall is anticipated to comprise of 6-inch cold-formed engineered steel stud framing, with resin-impregnated gypsum sheathing, membrane air-moisture barrier, rigid insulation of at least three inches thickness and an air space behind the cladding veneer. The cladding will be held with either a grid of an adjustable steel anchoring system, or, in the case of an open joint rain-screen, an aluminum girt system and clips.

C. Windows/Window Wall

The expansive glass areas of the new entry and the reading room will be based on an aluminum curtain-wall system with thermal-break and performance glazing. A screen system of either aluminum or terra cotta blades will be studied for sun control, together with an operable blind system at the reading room. Individual windows will be aluminum frame with thermal-break and performance glazing.

D. Roofing

The roofing of the new addition is proposed as an adhered PVC membrane roofing system over rigid insulation fastened to the deck, with the insulation sloped to pitch for drainage to roof drains (the steel will be level, not pitched). At the children's library deck, the roof framing will be lowered to facilitate the depth required for roof pavers over adjustable pedestals.

The roof mechanical equipment will supported on steel with vibration isolators. The equipment area is intended to be shielded from view by a ventilated screen supported on a framework of galvanized steel tube posts and beams, with a secondary aluminum or steel sub-frame to hold either an aluminum blade or terra-cotta blade wall screen system.

E. Interior

Interior construction of the addition will be based on a metal stud framing system with gypsum drywall (GWB). The ceiling systems will be a combination of GWB soffits and acoustic suspended tiles. Flooring finishes will be largely carpet. Toilet areas will have tile finishes for ease of cleaning and maintenance. The finishes will be studied in design development for trim or panel conditions and how the trim expression will compare to the existing.

The egress stair will be of steel construction within a fire-rated enclosure. However, fire-rated glass is planned to allow visibility if this stair.

The community room will include a moveable dividing partition, and accommodation for audio/visual screens.

Lighting for the stack areas will be indirect, with accessory and feature lighting for selective locations and reading areas.

VI. Site

Although the site organization remains generally as in the present, the new addition and changes to the entry concept will influence the pedestrian and vehicular layouts.

Site access for both vehicle ingress and egress will occur at the west side using the existing Deering Street curb cut, enlarged in width and reconfigured for two-way traffic. The access road on site at the west of the building will become two-way, feeding into a one-way loop around the main parking, which will remain to the south, reconfigured to tidy the layout and introduce landscaping buffer zones to the neighbors, and tree islands to divide the area. Traffic mitigation measures are recommended for the Deering/Middlesex intersection, such as 4-way stop.

As noted under the accessibility discussion above, the new main parking side entrance is now direct from grade, off of a landscaped plaza, which will is proposed have both paved and landscape zones, and outside seating. A convenient book drop-off aside the entry doors to the right will permit patrons to return books off-hours into a slot feeding an interior bin secured in an enclosure. The staff can then roll the bin directly to the elevator for transport to the staff circulation work area as needed. Two parking spaces are designated short term for the purpose of drop off/delivery.

The present on site vehicle path to the east is eliminated to facilitate the construction of the new addition, and this east side of the site, together with the north side of the site become landscape park areas for the neighborhood with walking paths to the building, returning the building to an original landscape setting from the east approach.

There is also an entry to the community room zone at the ground level on the east side with an accessible walk.

The roadway traversing the *porte cochere* will be removed as a vehicle path, as the innovation center room will occupy the *porte cochere*; the area will instead be landscaped with pedestrian pathway. The removal of the paving, reconfiguration of the drainage, and the introduction of permeable soil along the north façade will eliminate the splash and poor run-off condition against the existing building.

New site lighting will be introduced to improve the light quality of the site, provided by low cut-off fixtures to control excess light pollution and glare to the residential neighbors.